

CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there is qualified data on this name.

Meter ID: Betty 67

RQ- 2018-03-19-74

Project: SNP

- Notes: (1) Always wait for meter to stabilize before recording any readings.
 (2) Report all digits displayed. Do not round before reporting measurements. (See special instructions for depth).
 (3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Circle/Fill In: Lab Calibration or Calibration/Verification on Site _____

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification 3/2/18

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	<u>Leif Boman</u>	<u>3/2/18</u>	<u>8:15</u>	<u>22.19</u>	<u>8.710</u>	<u>8.72</u>	<u>100.0</u>	<u>42.0</u>	<u>0.9964</u>	<u>P</u> /F	<u>L</u> /F
ICV	<u>1</u>	<u>1</u>	<u>1</u>	<u>22.15</u>	<u>8.710</u>	<u>8.72</u>	<u>79.9</u>	<u>42.0</u>		<u>P</u> /F	<u>D</u> /F
CCV	<u>1</u>	<u>1</u>	<u>15:05</u>	<u>20.87</u>	<u>8.932</u>	<u>9.11</u>	<u>101.8</u>	<u>42.0</u>	<u>0.9964</u>	<u>P</u> /F	<u>D</u> /F
CCV										P/F	L/F

DO Acceptance criteria from Table ± 0.3 mg/L.

Optical: DO gain range 0.85 to 1.15; DO charge N/A.

Rapid-Pulse Sensors: DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.

Steady-state & Galvanic Sensors: DO Gain & Charge N/A.

Spec. Cond. FT 1200	Name	Date	Time CT-ET	Lot #	Expir. Date	Standard μ mhos/cm	Meter Reading μ mhos/cm	Pass / Fail	Lab / Field
Calibr.	<u>Leif Boman</u>	<u>3/2/18</u>	<u>8:15</u>	<u>2707874</u>	<u>07/19</u>	<u>1000</u>	<u>1000</u>	<u>P</u> /F	<u>D</u> /F
ICV	<u>1</u>	<u>1</u>	<u>1</u>	<u>180301</u>	<u>03/19</u>	<u>100</u>	<u>100</u>	<u>P</u> /F	<u>D</u> /F
CCV	<u>1</u>	<u>1</u>		<u>180301</u>	<u>03/19</u>	<u>100</u>	<u>100</u>	<u>P</u> /F	<u>D</u> /F
CCV								P/F	L/F

Conductivity Acceptance criteria $\pm 5\%$

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	<u>Leif Boman</u>	<u>3/2/18</u>	<u>8:15</u>	<u>172189</u>	<u>4/19</u>	<u>7.0</u>	<u>7.00</u>	<u>-28.0</u>	<u>P</u> /F	<u>D</u> /F
Calibr.	<u>1</u>	<u>1</u>	<u>1</u>	<u>176044</u>	<u>8/19</u>	<u>4.0</u>	<u>4.00</u>	<u>148.8</u>	<u>P</u> /F	<u>D</u> /F
Calibr.	<u>1</u>	<u>1</u>	<u>1</u>	<u>174997</u>	<u>7/19</u>	<u>10.0</u>	<u>10.00</u>	<u>-202.8</u>	<u>P</u> /F	<u>D</u> /F
ICV	<u>1</u>	<u>1</u>	<u>1</u>	<u>176044</u>	<u>8/19</u>	<u>4.0</u>	<u>4.00</u>	<u>148.4</u>	<u>P</u> /F	<u>D</u> /F
CCV	<u>1</u>	<u>1</u>		<u>174997</u>	<u>7/19</u>	<u>10.0</u>	<u>9.99</u>	<u>-202.5</u>	<u>P</u> /F	<u>D</u> /F
CCV									P/F	L/F

pH Acceptance criteria ± 0.2 SU; mV pH 7 Range 0 ± 50 ;

mV pH 4 Range $+180 \pm 50$;

mV pH 10 Range -180 ± 50 ;

If mV are recorded: slope from 7 to 10 174.8, slope from 4 to 7 176.8 (both must be between 165 and 180 mV)

Is meter equipped with depth sensor? Yes / No ~~Yes~~, list date of last quarterly depth verification 3/2/18

Depth Sensor (Daily Calibration & ICV)	Name	Date	Time CT-ET	Calibrated Value (0.00 or Offset), meters	ICV Value meters	Pass / Fail	Lab / Field
Pressure mode in air						P / F	L / F

Report two decimal places. Round numbers ≤ 4 down, ≥ 5 up. ICV acceptance criteria $\pm 5\%$ or ± 0.05 m, whichever is greater.

COMMENTS:

CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there is qualified data on this name.

Meter ID: Boop / Non

RQ- 2018-03-19-62

Project: SMP

- Notes: (1) Always wait for meter to stabilize before recording any readings.
 (2) Report all digits displayed. Do not round before reporting measurements. (See special instructions for depth).
 (3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Circle/Fill In: Lab Calibration or Calibration/Verification on Site

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification 3/2/18

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	Mike Linger	3/2/18	500	22.4	8.677	8.65	100	51.2	1.00886	P/F	L/F
ICV				22.4	8.677	8.64	99.8	51.2	1.00886	P/F	L/F
CCV	M. Drennan	3/22	820	21.94	8.761	8.87	101.4	51.2	1.00886	P/F	L/F
CCV										P/F	L/F

DO Acceptance criteria from Table ± 0.3 mg/L.

Optical: DO gain range 0.85 to 1.15; DO charge N/A.

Rapid-Pulse Sensors: DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.

Steady-state & Galvanic Sensors: DO Gain & Charge N/A.

Spec. Cond. FT 1200	Name	Date	Time CT-ET	Lot #	Expir. Date	Standard μ hos/cm	Meter Reading μ hos/cm	Pass / Fail	Lab / Field
Calibr.	Mike Linger	3/2/18	900	2707874	07/19	1000	1000	P/F	L/F
ICV				180301	03/19	100	99	P/F	L/F
CCV	M. Drennan	3/22	820	180301	3/19	100	99	P/F	L/F
CCV								P/F	L/F

Conductivity Acceptance criteria $\pm 5\%$

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	Mike Linger	3/2/18	900	172189	4/19	7.0	7.00	-21.2	P/F	L/F
Calibr.				176044	8/19	4.0	4.00	150.3	P/F	L/F
Calibr.				174997	7/19	10.0	10.03	-202.9	P/F	L/F
ICV				176044	8/19	4.0	10.02	-202.6	P/F	L/F
CCV	M. Drennan	3/22	820	176044	8/19	4.0	3.95	155.3	P/F	L/F
CCV									P/F	L/F

pH Acceptance criteria ± 0.2 SU; mV pH 7 Range 0 ± 50 ;

mV pH 4 Range $+180 \pm 50$;

mV pH 10 Range -180 ± 50 ;

If mV are recorded: slope from 7 to 10 181.5; slope from 4 to 7 171.5 (both must be between 165 and 180 mV)

Is meter equipped with depth sensor? Yes / No If yes, list date of last quarterly depth verification 3/2/18

Depth Sensor (Daily Calibration & ICV)	Name	Date	Time CT-ET	Calibrated Value (0.00 or Offset), meters	ICV Value meters	Pass / Fail	Lab / Field
Pressure mode in air						P/F	L/F

Report two decimal places. Round numbers ≤ 4 down, ≥ 5 up. ICV acceptance criteria $\pm 5\%$ or ± 0.05 m, whichever is greater.

COMMENTS: